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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

AN, SHAWN S

ART UNIT	PAPER NUMBER
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2613

DATE MAILED: 12/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/987,580	Applicant(s) TODATE ET AL.	
	Examiner Shawn S An	Art Unit 2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 October 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,4,8-16 and 18-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,4,8-16 and 18-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. As per Applicants' instructions received on 10/12/04, claims 1, 8, 10, 16, and 18-19 have been amended, and claims 2, 5-7, and 17 have been canceled.

Response to Remarks

2. Applicant's arguments with respect to amended claims as above have been carefully considered but are moot in view of the new grounds of rejection incorporating the prior art references cited in the last office action.

Claim Objections

3. Claim 14 is objected to because of the following informalities: Claim 14 has been omitted. Since Applicant did not officially cancel the claim 14, the Examiner assumes the claim 14 has simply been omitted without intention.

Therefore, appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 3-4, 8-9, 16, and 18-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang et al (6,434,197 B1) in view of Kim (6,342,923 B1).

Regarding claims 1 and 16, Wang et al discloses an image data conversion apparatus/method for converting transmitted compressed image data into image data of

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a different format and displaying the converted image data on a display apparatus, comprising:

- a first signal processing unit (Fig. 2, 210; Fig. 8-1, 800, 310) for receiving and decoding the compressed image data;

- a recording unit for (145) recording the decoded image data, reading out the image data one line by one line (slice; plurality of macroblocks) at a scanning line period of the display apparatus (col. 8, lines 21-30) under control of the first signal processing unit; and

- a second signal processing unit (Fig. 8-2, 356) for converting image data read out of the recording unit to image data of a screen size of the display apparatus (col. 8, lines 21-30);

wherein the first signal processing unit (after expansion/decompression) includes a conversion processing section (Fig. 8-2, 805) for eliminating a predetermined amount of lines from the decoded image data, wherein down sampler such as a scanning line down sampler inherently down samples (eliminating predetermined number of lines) in a spatial vertical and/or horizontal direction(s) by a designed specification so that image data of a same number of lines as that of display apparatus can be read out from the recording unit; and

converting formats from a high resolution to a low resolution, e. g., SD to CIF format (Col. 8, lines 21-30).

Wang et al does not particularly disclose the conversion section eliminating every sixth line of decoded image data of CIF type.

However, Kim teaches video format converting apparatus including the conversion section converting image data of five lines into image data of 6 lines having a CIF type (Fig. 2).

Therefore, it would have been obvious to a person of ordinary skill in the relevant art employing an image data conversion apparatus as taught by Wang et al to simply reverse the conversion process from the CIF format to SD format such that decoded data is of the CIF type and a size of the image to be displayed on the monitor is a same

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size as SD Television SDTV, thereby a conventional SDTV can properly display the SD formatted video images without any complications associated with different formats.

Furthermore, it would also have been obvious to a person of ordinary skill in the relevant art employing an image data conversion apparatus as taught by Wang et al to incorporate the concept as above as taught by the Kim so that the conversion section eliminates every sixth line of decoded image data of CIF type, thereby same number of lines as that of an odd field and even field can be displayed on the monitor, thereby a conventional SDTV can properly display the SD formatted video images without any complications associated with different formats.

Regarding claim 3, Wang et al discloses a central processing unit (Fig. 8-2, 350).

Regarding claim 4, Wang et al does not particularly disclose having an expansion processing section or up-sampler for expanding the inputted compressed data.

However, the Examiner takes Official notice that an expansion processing circuit or an up-sampler is well known in the art for expanding the inputted compressed data.

Therefore, it would have been obvious to a person of ordinary skill in the relevant art employing an image data conversion apparatus as taught by Wang et al to incorporate the expansion processing circuit for expanding the inputted compressed data, thereby desired display size could be displayed on the monitor.

Regarding claims 8, 20-21, and 24-25, since Kim teaches video format converting apparatus including the conversion section converting image data of five lines into image data of six lines having a CIF type (Fig. 2), it would have been obvious to a person of ordinary skill in the relevant art to incorporate the Kim's concept so that the conversion section eliminates every sixth line of decoded image data of CIF type, so that when one line data is read out from recording unit, the second processing unit adds one line data before at a predetermined ratio to generate image data of one line, thereby same number of lines as that of an odd field and even field are to be displayed on the monitor, thereby a conventional SDTV can properly display the SD formatted video images without any complications associated with different formats.

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Regarding claim 9, Wang et al discloses MPEG-4 compression type (col. 1, lines 54-59).

Regarding claims 18-19, Wang et al discloses converting formats from a high resolution to a low resolution, e. g., SD to CIF format (Col. 8, lines 21-30).

Therefore, it would have been obvious to a person of ordinary skill in the relevant art employing an image data conversion apparatus as taught by Wang et al to simply reverse the conversion process from the CIF format to SD format such that decoded data is of the CIF type and a size of the image to be displayed on the monitor is a same size as SD Television SDTV, thereby a conventional SDTV can properly display the SD formatted video images without any complications associated with different formats.

Regarding claim 22, Wang et al discloses converting formats from a high resolution to a low resolution, e. g., SD to CIF format (Col. 8, lines 21-30).

Therefore, it would have been obvious to a person of ordinary skill in the relevant art employing an image data conversion apparatus as taught by Wang et al to simply reverse the conversion process from the CIF format to SD format such that decoded data is of the CIF type and a size of the image to be displayed on the monitor is a same size as SD Television SDTV, thereby a conventional SDTV can properly display the SD formatted video images without any complications associated with different formats.

Note: video signal of 288 lines (CIF) being converted into video signal of 240 lines (SDTV camera) obviously constitutes an image data having both odd and even fields, since a frame comprises of two fields (odd and even).

Regarding claim 23, Wang et al discloses inverse converter including a line memory by which the image data of each line is delayed by one line (Fig. 8-2, 600), and a digital filter (400) for receiving image data of a current line and the image data of one line before from the line memory, multiplying both of the image data by predetermined conversion coefficients, respectively, and adding data resulting from the multiplications (col. 7, lines 54-63; col. 6, lines 13-17).

Regarding claim 26, Wang et al discloses decoded image data being stored in a recording unit (145) and read line by line (slice; plurality of macroblocks).

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6. Claims 10-12 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang et al (6,434,197 B1) in view of Kanoh et al (5,272,520).

Regarding claim 10, Wang et al discloses an image data conversion apparatus for converting compressed image data transmitted in a unit of a field into image data of a different format and displaying the converted image data on a display apparatus, comprising:

a first signal processing unit (Fig. 2, 210; Fig. 8-1, 800, 310) for receiving and decoding the compressed image data in units of the field;

a recording unit for (145) recording the decoded image data, reading out the image data one line by one line (slice; plurality of macroblocks) at a scanning line period of the display apparatus (col. 8, lines 21-30) under control of the first signal processing unit; and

a second signal processing unit (Fig. 8-2, 805) for converting image data read out of the recording unit to image data of a screen size of the display apparatus (col. 8, lines 21-30).

Wang et al does not specifically disclose an inverse converter for converting the image data of each field into an odd field image data and an even field image.

However, Kanoh et al discloses an inverse converter for converting the image data of each field into an odd field image data and an even field image data (NTSC frame (fields)) (Fig. 1, 11) to permit display on a display apparatus the image data of the screen size of the display apparatus.

Therefore, it would have been obvious to a person of ordinary skill in the relevant art employing an image data conversion apparatus as taught by Wang et al to incorporate the concept as above as taught by the Kanoh et al so that the conventional SDTV can properly display the SD formatted (NTSC) video signals without any complications associated with different formats, thereby permitting display on the display apparatus the image data of the screen size of the display apparatus.

Regarding claim 11, Kanoh et al discloses a recording unit (12) reading out the CIF, and a size of image to be displayed on the display apparatus is a same size as SDTV (NTSC) video signal (Fig. 1, final output).

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Regarding claim 12, Wang et al discloses inverse converter including a line memory by which the image data of each line is delayed by one line (Fig. 8-2, 600), and a digital filter (400) for receiving image data of a current line and the image data of one line before from the line memory, multiplying both of the image data by predetermined conversion coefficients, respectively, and adding data resulting from the multiplications (col. 7, lines 54-63; col. 6, lines 13-17).

Regarding claim 15, Kanoh et al discloses a bus (arrow in Fig. 8-2) for connecting the first and second processing units, wherein the recording unit (145) is connected to the bus (Figs. 3-1 to 3-2 to 6 to 8-2), and wherein the image data from the first processing unit is stored in the recording unit and read out at every line to be supplied to the second signal processing unit (Fig. 8-2, 805).

7. Claims 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang et al and Kanoh et al as applied to claim 10 above, and further in view of Kim (6,342,923 B1).

Regarding claims 13-14, The combination of Wang et al and Kanoh et al does not seem to disclose the conversion section eliminating a predetermined number of lines from the decoded image data as that of either one of an odd field and an even field of the display apparatus being read out from the recording unit.

However, Kim discloses video format converting apparatus including the conversion section converting image data of five lines into image data of 6 lines Having a CIF type (Fig. 2).

Therefore, it would have been obvious to a person of ordinary skill in the relevant art employing an image data conversion apparatus as taught by Wang et al to incorporate the concept as above as taught by the Kim so that the conversion section eliminates a predetermined number of lines from the decoded image data as that of either one of an odd field and an even field of the display apparatus being read out from the recording unit, since CIF predetermined lines are same lines as (odd and even) fields, thereby a conventional SDTV can properly display the SD formatted video images without any complications associated with different formats.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to **Shawn S An** whose telephone number is 703-305-0099. The Examiner can normally be reached on Flex hours (10).

10. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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11. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.



SSA

Primary Patent Examiner

12/26/04